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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,259	05/25/2001	Fumihiko Hayashi	Q62964	3213

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05/06/2002

SUGHRUE, MION, ZINN, MACPEAK & SEAS
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EXAMINER

PHAM, HOAI V

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 05/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,259

Applicant(s)

HAYASHI, FUMIHIKO

Examiner

Hoai V Pham

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Figures 11-12 Claims 9-22 in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 10-13 are withdrawn from consideration because these claim do not read on the species of figures 11-12.

Drawings

3. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. Claim 21 is objected to because of the following informalities:
Line 3, change "a surfaee" to --a surface--.
Appropriate correction is required.
5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 20-22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 20, lines 14-15, the phrase "removing said tunnel oxide film and said isolation oxide film on a second side of said gate electrode" is not described in the specification or shown in figures 11-12.

Claim 20, line 26, the phrase "forming a silicide layer on a surface of said diffusion **layers**" renders the claim indefinite because in figures 11-12, a silicide layer is not formed on the source diffusion layer (see also claim 22).

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17, lines 4-6, the phrase "remove said silicidation blocking layer from said
upper surface of said first gate electrode and said surface of said first source area to

remain at least a side surface of said first gate electrode” renders the claim indefinite since claim 1 recites that “without removing said silicidation blocking layer on said side surface of said second gate electrode and **on said surface of said first source area**”

Therefore, claim 17 contradict with claim 1.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

12. Claims 9, 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Nomachi et al. [U.S. Pat. 6,339,237].

Nomachi et al. (figs. 1-15, cols. 5-11) discloses a manufacturing method of a semiconductor memory device having a memory cell array portion (A) comprising a memory cell portion and a source contact portion, comprising the steps of:

forming a first gate electrode (16a), a first drain area (18b) and a first source area

(18a) on the memory cell portion;

forming a second gate electrode (16b), a second drain area (18b) and a second source area (18b) on said source contact portion;

forming a silicidation blocking layer (21) on a surface of said first gate electrode, on a surface of said first drain area, on a surface of said first source area, on a surface of said second gate electrode, on a surface of said second drain area, and on a surface of said second source area (fig. 13); and

removing said silicidation blocking layer from an upper surface of said second gate electrode and said surface of said second source area without removing said silicidation blocking layer on said side surface of said second gate electrode and on said surface of said first source area (fig. 14).

With respect to claim 14, Nomachi et al. discloses etching the silicidation blocking layer on the memory cell portion and on the source contact portion after the step of forming the silicidation blocking layer to remove the silicidation blocking layer on the upper surface of the first gate electrode and the surface of the first drain area without removing the silicidation blocking layer on the surface of the first source area (figure 14).

With respect to claim 15, Nomachi et al. discloses forming a silicide layer (22a, 22b) on the upper surface of the first gate electrode (16b), on the surface of the first drain area, on the upper surface of the second gate electrode and on the surface of the second source area (figure 15).

~~With respect to claim 16, Nomachi et al. discloses that the silicidation blocking~~

layer of the surface on the second source area is removed by the step of removing the silicidation blocking layer on the upper surface of the first gate electrode (figure 14).


Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai V Pham whose telephone number is 703-308-6173. The examiner can normally be reached on 6:30A.M. - 6:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HP
Hoai Pham
April 23, 2002


OLIK CHAUDHURI
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